IN THE CLAIMS

Please amend Claims 1 – 21 as follows:

1. (*Previously Presented*) A radiation-emitting semiconductor device comprising a semiconductor body and a substrate, which semiconductor body comprises a vertical bipolar transistor with an emitter region, a base region and a collector region, which regions are each provided with a connection region, and the boundary between the base region and the collector region forms a pn junction, and, during operation, at a reverse voltage across the pn junction, or at a sufficiently high collector current, avalanche multiplication of charge carriers occurs, causing radiation to be generated in the collector region, characterized in that the collector region has a thickness such that transmission of the generated radiation occurs, and the collector region borders on a free surface of the semiconductor body.

2. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, wherein the collector region comprises a first sub-region that borders on the base region and a second sub-region that borders on the first sub-region and that has a higher conductance than the first sub-region, characterized in that the second sub-region of the collector region has a smaller thickness than the first sub-region and borders on the free surface of the semiconductor body.

3. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that the surface of the semiconductor body on which the collector region borders is covered with a layer comprising an electroluminescent material.

4. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that the surface of the semiconductor body on which the collector region borders is covered with an electrically insulating layer which is transparent to the radiation generated and on which a gate electrode is present having a part which is transparent to the radiation generated.

5. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 4, characterized in that during operation of the device, the second sub-region of the collector region is formed by a conductive channel near the free surface of the semiconductor body, which conductive channel is induced in the first sub-region by means of the gate electrode.

6. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 5, characterized in that the gate electrode comprises a metal layer which is provided with an aperture.

7. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that a part of the base region bordering on the first sub-region of the collector region comprises a semiconductor material having a smaller band gap than the rest of the base region and the collector region.

8. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that the semiconductor body is attached to the substrate by a further surface opposite the free surface on which the collector region borders, using an adhesive layer.

9. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that the connection regions of the emitter region, the base region and the collector region are situated at the surface of the semiconductor body on which the collector region borders.

10. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that a radiation conductor provided with means for coupling the radiation generated in the device into the radiation conductor is present on the surface on which the collector region borders.

11. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that the device forms an integrated circuit with two electrically insulated regions which are in optical communication with each other by means of the radiation generated.

12. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that the material of the semiconductor body comprises silicon, and, if applicable, a part of the base region that comprises a semiconductor material with a smaller band gap comprises a composition of silicon and germanium.

13. (*Previously Presented*) A radiation-emitting semiconductor device as claimed in claim 1, characterized in that the substrate comprises an insulator.

14. (*Previously Presented*) A method of manufacturing a radiation-emitting semiconductor device in which, in a semiconductor body a vertical bipolar transistor is formed with a collector region a base region and an emitter region, which are each provided with a connection region, characterized in that the semiconductor body is formed as a thin layer of a semiconductive material that is separated from a temporary substrate by means of an electrically insulating layer, and the vertical bipolar transistor is formed in the semiconductor body, after which the substrate is attached onto a side of the semiconductor body opposite the electrically insulating layer, whereafter the temporary substrate is removed.

14. (*Currently Amended*) A method of manufacturing a radiation-emitting semiconductor device comprising:

forming ~~in which,~~ in a semiconductor body a vertical bipolar transistor ~~is formed~~ with a collector region, a base region, and an emitter region, which regions are each provided with a connection region, ~~characterized in that~~wherein the semiconductor body is formed as a thin layer of a semiconductive material that is separated from a temporary substrate by means of an electrically insulating layer, ~~;~~ and

~~the vertical bipolar transistor is formed in the semiconductor body,~~ attachingafter ~~which~~ the substrate ~~is attached~~ onto a side of the semiconductor body opposite the electrically insulating layer, whereafter the temporary substrate is removed.

15. (*Previously Presented*) A method as claimed in claim 14, characterized in that the substrate is attached onto the side of the semiconductor body opposite the electrically insulating layer by means of an adhesive layer.

16. (*Previously Presented*) A method as claimed in claim 14, characterized in that the electrically insulating layer is removed, as a result of which the collector region borders on a free semiconductor surface.

17. (*Previously Presented*) A method as claimed in claim 14, characterized in that the insulating layer is coated with an electroconductive layer which is transparent to radiation.

18. (*Previously Presented*) A method as claimed in claim 17, characterized in that the electroconductive layer serves as a gate, and an inversion channel is formed in the collector region.

19. (*Previously Presented*) A method as claimed in claim 14, characterized in that in a semiconductor substrate the electrically insulating layer is formed by means of ion implantation, the semiconductor body being formed by a part of the semiconductor substrate situated above the insulating layer, and the temporary substrate being formed by the part of the semiconductor substrate situated under the insulating layer.

20. (*Previously Presented*) A method as claimed in claim 14, characterized in that the thin layer of a semiconductive material is formed by the silicon layer of a silicon-on-insulator wafer.

21. (*Currently Amended*) A method ~~as claimed in any one of the preceding claims,~~ as claimed in claim 14, characterized in that the surface of the semiconductor body on which the collector region borders is provided with a radiation conductor which is equipped with means for coupling the radiation to be generated in the device during operation into the radiation conductor.